

Advanced MPI Profibus routing

The Advanced Routing feature has been introduced from firmware version 6.3 onwards.

It allows to access PLC that make part of an other MPI/Profibus network connected indirectly to the eWON through another (or various other) PLC.

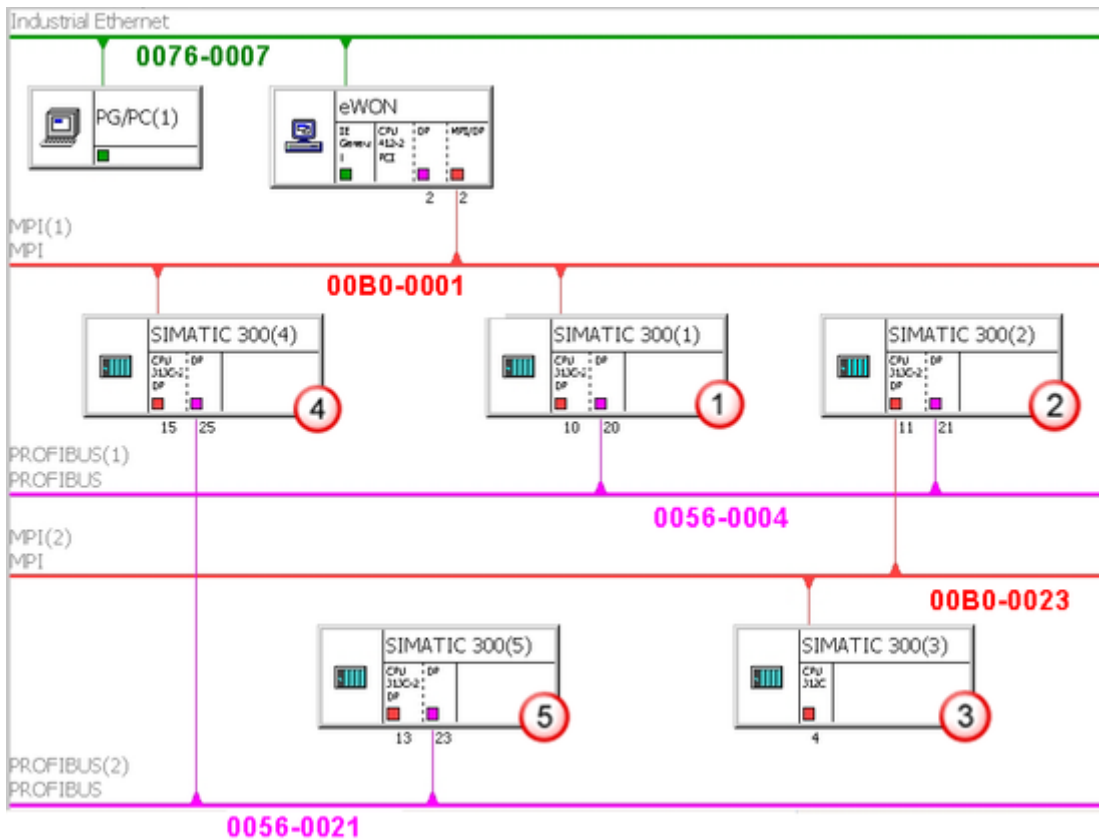
The "Advanced Routing Setup" items are visible when the Enable check box is ticked.

IO Server: 573&400 Edit Clear Init		Global Config
573 & 400 IO Server & Gateway settings		
Gateway Configuration		
Destination MPI/PROFIBUS Node:	<u>destination Node</u>	<input type="text"/>
MPI/PROFIBUS Setup		
Protocol Type:	MPI <input type="button" value="v"/>	Default MPI. PPI Multimaster may only be used with the S7200
Baud Rate:	1500000 <input type="button" value="v"/>	Default 187500
Reply Timeout:	<input type="text"/> MS	50..50000, default: 3000
MPI/PROFIBUS Address:	<input type="text"/>	Device address of eWON on link (0..126, default: 0)
MPI/PROFIBUS Highest Station Address:	31 <input type="button" value="v"/>	Default: 31
Advanced Routing Setup:	<input checked="" type="checkbox"/> Enabled	

- Note -

Parameters that would have been set in this section remain in memory but are visually hidden AND not taken into account by the firmware when the Enable checkbox is unticked.

Let's assume we have following network layout:



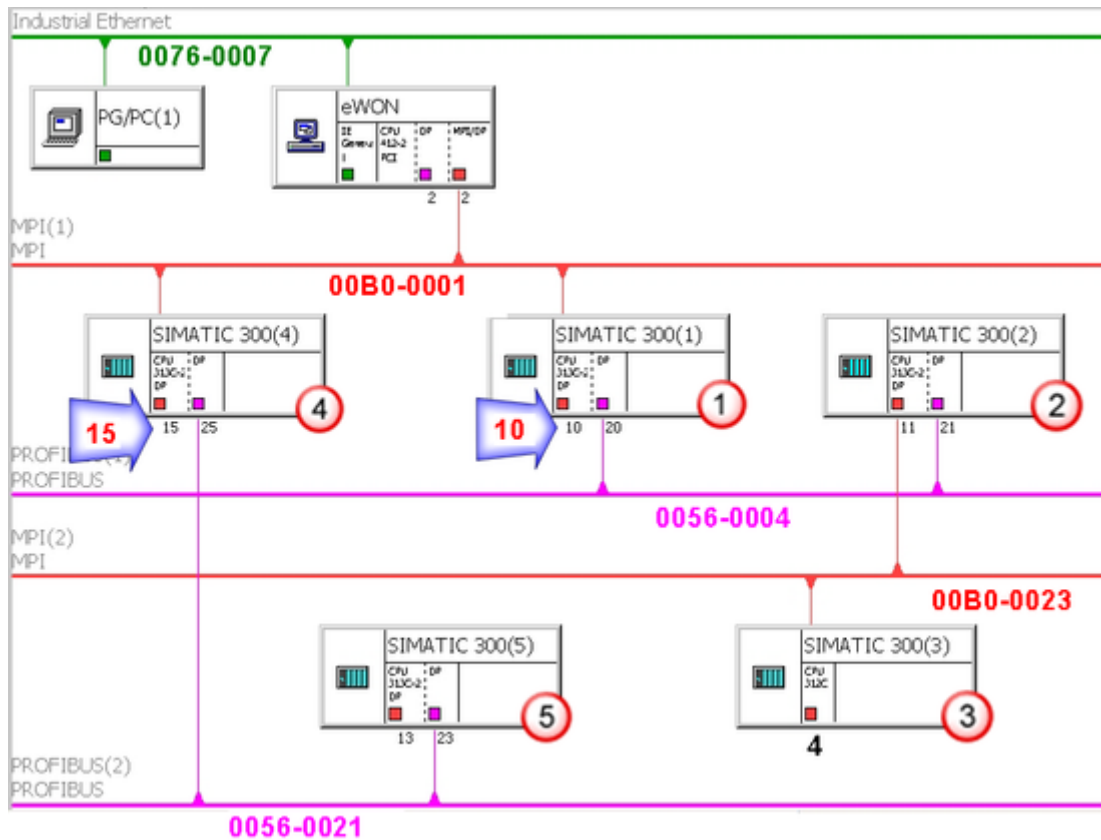
The settings for the Advanced routing will depend on the software that will be used on the PC side.

1. Using Step7

All PLCs (1 to 5) can be accessed simultaneously. In fact Step7 uses the "long Tsap" to specify the device to reach.

So to allow to reach the different PLC using Step7, eWON should be configured like this:

Advanced Routing Setup: <input checked="" type="checkbox"/> Enabled			
Gateway Destination S7 Subnet ID:	<input type="text"/>	(xxxx-xxxx, default: 0000-0000)	
ISOTCP S7-Subnet ID:	0076-0007	(xxxx-xxxx, default: 0000-0000)	
MPI/PROFIBUS S7-Subnet ID:	00B0-0001	(xxxx-xxxx, default: 0000-0000)	
Default Next MPI/PROFIBUS Node:	<input type="text"/>	(0..126, default: 2)	
Gateway Entry 1	Destination S7-Subnet ID	0056-0004	0000-0000 Next MPI/PROFIBUS Node 10 default:2
Gateway Entry 2	Destination S7-Subnet ID	00B0-0023	0000-0000 Next MPI/PROFIBUS Node 10 default:2
Gateway Entry 3	Destination S7-Subnet ID	0056-0021	0000-0000 Next MPI/PROFIBUS Node 15 default:2



In the upper part you need to specify the Network-ID of the ISOTCP and the MPI/Profibus network connected directly to the eWON. In the Gateway Entries, for every subnet to reach indicate the next MPI/profibus node that must be used as next step for the routing.

2. Using TIA Portal

For TIA Portal, it's the same than for Step7, the lone difference is the format of "S7 Subnet ID". In TIA Portal you will have "C8-6" but in the eWON you should use "00C8-0006"

Example :

3. Using an other IOserver

Most of the IOserver softwares do not allow to specify the Network-ID and the MPI node to reach behind the eWON. On the IOserver software the only available configuration field is probably the IP address of the PLC.

To reach the PLC using this kind of software (software using only a short TSAP), eWON allows to root the information further to a specific PLC on a specific Network. But only one PLC can be accessed at the same time.

Let's assume that we want to poll the PLC Nr. 3, as shown on the picture here above. We need then to configure the eWON like this:

So in the "destination Node" field on the top of the IOserver page, encode the MPI/Profibus node of the PLC which we want to reach.

In the "Gateway Destination S7 Subnet ID" field encode the subnet-ID on which the PLC is connected to.

In the "Default Next MPI/Profibus Node" field specify the MPI/Profibus node that must be used as next step for the routing.

4. eWON Tag Polling:

All PLCs (1 to 5) can be polled by eWON simultaneously.

To achieve this, the advanced Routing inside the eWON must be configured like for using Step7 (see explications here above):

Advanced Routing Setup:		<input checked="" type="checkbox"/> Enabled	
Gateway Destination S7 Subnet ID:	<input type="text"/>	(xxxx-xxxx, default: 0000-0000)	
ISOTCP S7-Subnet ID:	0076-0007	(xxxx-xxxx, default: 0000-0000)	
MPI/PROFIBUS S7-Subnet ID:	00B0-0001	(xxxx-xxxx, default: 0000-0000)	
Default Next MPI/PROFIBUS Node:	<input type="text"/>	(0..126, default: 2)	
Gateway Entry 1	Destination S7-Subnet ID 0056-0004	0000-0000	Next MPI/PROFIBUS Node 10 default:2
Gateway Entry 2	Destination S7-Subnet ID 00B0-0023	0000-0000	Next MPI/PROFIBUS Node 10 default:2
Gateway Entry 3	Destination S7-Subnet ID 0056-0021	0000-0000	Next MPI/PROFIBUS Node 15 default:2

Inside the Topic configuration, for the Global Device Address, we then just need to specify the destination Subnet-ID and the MPI/Profibus node of the PLC which eWON should poll.

So for example to poll the PLC Nr. 3, as shown on the picture here above, we need then to configure the Topic like this:

Topic A :		<input checked="" type="checkbox"/> Enabled
Topic Name:	A	
Global Device Address:	MPI,00B0-0023,4	



Revision

Revision History

Revision Level	Date	Description
1.0	17/12/2013	Creation of document

Document build number: 7

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